

IN THE COURT OF COMMON PLEAS
FRANKLIN COUNTY, OHIO

STATE OF OHIO, *ex rel.*
MICHAEL DEWINE
OHIO ATTORNEY GENERAL
30 E. Broad St, 25th Floor
Columbus, Ohio 43215,

Plaintiff,

v.

VOLKSWAGEN AKTIENGESELLSCHAFT
d/b/a VOLKSWAGEN GROUP and/or
VOLKSWAGEN AG
Breiffach 1849
38436 Wolfsburg
Germany,

AUDI AG
Auto-Union-Strasse 1
85045 Ingolstadt
Germany,

VOLKSWAGEN GROUP OF AMERICA, INC.
d/b/a VOLKSWAGEN OF AMERICA, INC.
OR AUDI OF AMERICA, INC.
2200 Ferdinand Porsche Drive
Herndon, Virginia 20171
c/o CSC-LAWYERS INCORPORATING
SERVICE
(CORPORATION SERVICE COMPANY)
Statutory Agent
50 W. Broad Street, Suite 1800
Columbus, Ohio 43215,

VOLKSWAGEN OF AMERICA, INC.
2200 Ferdinand Porsche Drive
Herndon, Virginia 20171
c/o Volkswagen Group of America, Inc.,
Statutory Agent
3800 Hamlin Road
Auburn Hills, MI 48326,

CASE NO. _____

JUDGE _____

COMPLAINT FOR
CIVIL PENALTIES AND
DAMAGES

AUDI OF AMERICA, LLC)
 2200 Ferdinand Porsche Drive)
 Herndon, Virginia 20171)
c/o Volkswagen Group of America, Inc.,)
Statutory Agent)
3800 Hamlin Road)
Auburn Hills, MI 48326,)
)
DR. ING. H.C. F. PORSCHE AG d/b/a)
PORSCHE AG)
 Porscheplatz 1)
 70435 Stuttgart)
 Germany,)
)
AND)
)
PORSCHE CARS)
NORTH AMERICA, INC.,)
 One Porsche Drive)
 Atlanta, GA 30354)
c/o CT Corporation System)
Statutory Agent)
1300 East Ninth Street)
Cleveland, Ohio 44114,)
)
 Defendants.)

I. INTRODUCTION

1. The State of Ohio seeks relief for the massive, emissions-control-tampering scheme perpetrated by Defendants (collectively "Volkswagen" or "Defendants") in connection with their sale or lease to U.S. consumers of more than 550,000 vehicles, including approximately 14,000 in Ohio, from model year 2009 to 2016.

2. Volkswagen used defeat devices—test recognition software commonly known in the industry as "cycle beaters"—to optimize the performance of their diesel vehicles during emissions tests, as compared to their actual performance on the roads. It did so to conceal the fact that the vehicles did not comply, or come close to complying, with applicable state and

federal emissions standards during normal driving, subjecting the American public, including Franklin County, Ohio residents, to the health risks of added air pollution.

3. Defendants' unlawful conduct involved different engineering and testing teams operating across different facilities in both Germany and the United States and the placement of the illegal defeat devices in over a dozen separate U.S. brands equipped with 2.0 liter and 3.0 liter diesel engines (the "Subject Vehicles") from the 2009-2016 model years, which were sold between 2008 and 2015.

4. Volkswagen knew that the defeat devices were illegal, but it continued to install them for years. It challenged research that exposed an obvious, unlawful spike in the vehicles' emissions during road testing. This was especially suspicious because the vehicles' emissions complied with standards during laboratory testing.

5. Volkswagen only admitted to the installation of defeat devices on its vehicles when the United States Environmental Protection Agency ("U.S. EPA") and the California Air Resources Board ("CARB") proposed to decline Volkswagen's 2016 diesel vehicles from certification.

6. At a September 2015 event to promote the 2016 Passat, Michael Horn, then-President and CEO of Volkswagen Group of America, Inc., was plain-spoken, telling the audience "[o]ur company was dishonest with the [U.S. Environmental Protection Agency] and the California Air Resources Board and with all of you, and, in my German words, we have totally screwed up."

7. A few weeks later, in prepared testimony before the House Committee on Energy and Commerce Subcommittee on Oversight and Investigations on October 8, 2015, Horn offered more detail, confirming "that emissions software in [Volkswagen's] four cylinder diesel vehicles

from model years 2009-2015 contained a 'defeat device' in the form of hidden software that could recognize whether a vehicle was being operated in a test laboratory or on the road. The software made those [vehicles] emit higher levels of nitrogen oxides when the vehicles were driven in actual road use than during laboratory testing."

8. In June 2016, Volkswagen articulated in a Partial Settlement Agreement resolving state consumer protection and deceptive practices claims only that "software in the 2.0 Liter Subject Vehicles enables the vehicles' [engine control modules] to detect when the vehicles are being driven on the road, rather than undergoing Federal Test Procedures" and it "renders certain emission control systems in the vehicles inoperative when the [engine control module] detects the vehicles are not undergoing Federal Test Procedures, resulting in emissions that exceed EPA-compliant and CARB-compliant levels when the vehicles are driven on the road."

9. As a result of Volkswagen's scheme, the Subject Vehicles were certified for sale throughout the United States, enabling Volkswagen to sell more than 550,000 Subject Vehicles nationwide and approximately 14,000 in Ohio. These vehicles spewed illegal emissions of at least 45,000 additional tons of nitrogen oxides ("NO_x") onto American streets, exacerbating asthma and other respiratory diseases of those who breathed them.

10. Volkswagen believed that its deceit would go undetected, and that even if caught, the consequences would be manageable. A February 29, 2016 court filing by Volkswagen in a European shareholder lawsuit provides an illuminating insight into its cost-benefit calculation when it comes to whether to break the law:

[B]eginning in the 1970s, violations of the prohibition against defeat devices under U.S. environmental law had recurred at irregular intervals in the United States, the theoretical possibility that sanctions might be imposed due to a potential violation of U.S. environmental protection provisions seemed at the time to pose only a moderate cost risk. The fines imposed for such violations in

the 1990s against automobile manufacturers that were also well-known (including General Motors, Ford, and Honda) were for relatively low amounts. Even the highest fine to date, which amounted to U.S.-\$ 100 million and was imposed in 2014 against the Hyundai/Kia group, was at the lower end of the statutory range of fines. This case involved roughly 1.1 million vehicles, which works out to a fine of barely U.S.-\$ 91 per vehicle. It is obvious that fines in this amount are not even remotely capable of influencing the share price of a globally operative company such as VOLKSWAGEN. Even if the fine were U.S.-\$100 per vehicle, the total penalty in the present case would amount to U.S. \$50 million, which would have no potential effect whatsoever on share prices.

Braunschweig, Case No. 02106-15/BE/Hn, Defendants' Answer (Feb. 29, 2016) at 47.

11. Plaintiff, the State of Ohio's ("the State") objective is to enforce its air pollution control laws and rules including its anti-tampering provisions, and associated common law, to hold accountable violators for their environmental noncompliance.

12. Therefore, the State, on relation of its Attorney General, Michael DeWine, and at the written request of the Director ("Director") of the Ohio Environmental Protection Agency ("Ohio EPA"), hereby institutes this action under R.C. 3704.06 and common law authority, for the assessment of civil penalties and damages.

II. PARTIES

13. Plaintiff is the State appearing by and through the Ohio Attorney General.

14. The Attorney General is the chief law enforcement officer of the State and is authorized to bring this action pursuant to R.C. 109.02 and 3704.06.

15. Defendant Volkswagen Aktiengesellschaft ("Volkswagen AG") is a corporation organized under the laws of Germany and has its principal place of business in Wolfsburg, Germany. Defendant Volkswagen AG is the parent corporation of the Volkswagen Group, Defendant Volkswagen Group of America, Inc., and Defendant Audi AG.

16. Volkswagen Group ("VW Group") is an organizational and trade term referring to Volkswagen AG's automotive brands (including Volkswagen Passenger Cars and subsidiaries Audi and Porsche) and financial services business.

17. Volkswagen AG and the VW Group are managed by Volkswagen AG's Board of Management. A Supervisory Board appoints, monitors, and advises the Board of Management and issues its rules. Each brand in the VW Group also has its own Brand Board of Management. The members of the Brand Boards of Management manage their respective brands, pursuant to targets and requirements laid down by the Volkswagen AG Board of Management.

18. Defendant Volkswagen Group of America, Inc. ("VWGOA") is a New Jersey corporation, which was registered to do business in Ohio in March of 1976. VWGOA maintains a principal place of business located at 2200 Ferdinand Porsche Drive, Herndon, Virginia. VWGOA is a wholly-owned subsidiary of Volkswagen AG. Within VWGOA, the Engineering and Environmental Office ("EEO") interacts with U.S. regulators and handles regulatory compliance and certification-related issues for Volkswagen AG and Audi AG.

19. Defendant Audi AG is a corporation organized under the laws of Germany that has its principal place of business in Ingolstadt, Germany. Defendant Audi AG is a member of the VW Group, and Defendant Volkswagen AG owns 99.55% of Defendant Audi AG's stock.

20. Defendant Audi of America, LLC, also known as Audi of America, Inc. ("AOA") and Defendant Volkswagen of America, Inc. are both Delaware limited liability companies and wholly-owned, operating units of Defendant VWGOA. Each Defendant has principal places of business located at 2200 Ferdinand Porsche Drive, Herndon, Virginia and 3800 Hamlin Road, Auburn Hills, Michigan. Both of these Defendants were registered to do business in Ohio in March 2008.

21. Defendant Dr. Ing. h.c. F. Porsche AG d/b/a Porsche AG ("Porsche") is a corporation organized under the laws of Germany that has its principal place of business in Stuttgart, Germany. Defendant Porsche is a member of the VW Group and a wholly-owned subsidiary of Defendant Volkswagen AG.

22. Defendant Porsche Cars North America, Inc. ("Porsche NA") is a Delaware corporation that was registered in Ohio in December 1987. Defendant Porsche NA has its principal place of business at One Porsche Drive, Atlanta, Georgia. Defendant Porsche NA is a wholly-owned subsidiary of Defendant Porsche.

23. Each of the Defendants is a "person" as defined by R.C. 3704.01, R.C. 1.59, and Ohio Adm.Code 3745-80-01.

III. JURISDICTION AND VENUE

24. The State, by and through its Attorney General, Michael DeWine, brings this action against Defendants to enforce Ohio's Air Pollution Control Statute, R.C. Chapter 3704, and the rules adopted thereunder, at the written request of the Director, and to enforce the common law against conspiracy to violate these laws and rules.

25. This Court has jurisdiction over the subject matter of this action, personal jurisdiction over the Defendants, and authority to grant the relief requested pursuant to R.C. 2307.382 and R.C. 3704.06.

26. At all relevant times, Defendants have purposefully availed themselves of this forum. In addition to the actual sale or lease of the Subject Vehicles in Ohio including Franklin County, Defendants have possessed, advertised, manufactured, and/or installed the Subject Vehicles for their sale or lease with the knowledge that they possessed the unlawful defeat device software, or Defendants otherwise knowingly tampered with the vehicles to disable their

emissions control systems. Defendants have transacted business and/or contracted to supply services or goods in Ohio or have an interest in, use, and/or possess real property in Ohio.

27. In addition, Defendants transacted business in Ohio through approximately 10 Audi dealerships; approximately 20 Volkswagen dealerships; and approximately 8 Porsche dealerships, and conducted business from at least one Ohio location: Volkswagen of America Training Center, 4150 Tuller Rd. #201, Dublin, Franklin County, Ohio 43017.

28. Accordingly, the exercise of specific jurisdiction over all Defendants is proper and consistent with due process.

29. Venue lies in the Franklin County Court of Common Pleas pursuant to Civ.R. 3(B).

30. Pursuant to Civ.R. 8(A), the State informs the Court that the amount sought is in excess of twenty-five thousand dollars (\$25,000.00).

IV. STATEMENT OF FACTS

A. Defendants personally participated and acted in concert to violate environmental laws.

31. Unless otherwise stated, the allegations set forth in this Complaint are based upon information obtained from the documents produced by Defendants, the testimony of Defendants' current and former employees, publicly available press reports, and information and documents obtained from other third-party sources through Plaintiff's investigatory efforts.

32. At all times material to this Complaint each Defendant, and in conjunction with each other, caused, participated in, controlled, and/or acted, or failed to act, in violation of the statutes, rules, and common law as alleged in this Complaint. In addition, or in the alternative, Defendants knew or should have known about these violations, and each, and in conjunction

with others, had the authority to prevent or stop the violations but failed to exercise the authority to do so.

33. Defendants worked in concert with the common objective of engaging in the emissions-cheating scheme described in this Complaint. Each of the Defendants was, and still is, the agent of the others for this purpose, and each has acted, and is acting, for the common goals and profit of them all. Therefore, all acts and knowledge ascribed to one of them are properly imputed to the others.

34. Defendant Volkswagen AG, and its subsidiaries Audi AG, Porsche AG, and VWGOA, designed the Subject Vehicles specifically for sale to U.S. customers by their U.S. affiliates.

35. Defendant Volkswagen AG allocates and controls the overall research and development for the brands in the VW Group, including Audi and Porsche.

36. For the Subject Vehicles that Volkswagen, Audi, and Porsche sold in the United States, VWGOA's EEO acted as their representative before U.S. and state regulators for compliance and certification-related issues.

37. Defendants share engineering research and development and engine concepts and designs, including in this case Volkswagen's incorporation of Audi-designed software and hardware elements into its EA 189 diesel engine for the Generation 1 and 2 Subject Vehicles, and Porsche's use of the Audi 3.0 liter diesel engine for its Cayenne SUV Subject Vehicle.

38. Defendants share officers and employees of the Defendants among themselves, including several of those involved in the unlawful conduct described in this Complaint, and the officers and employees have moved from the employ of one Defendant to another.

39. At a minimum, each of the Defendants provided each of the other Defendants with substantial assistance, or conspired in carrying out individual company-by-company unlawful emissions schemes, as described in this Complaint.

B. The diesel technology for Volkswagen's Subject Vehicles had its disadvantages.

40. Volkswagen designed and developed and ultimately marketed and sold a line of diesel turbocharged direct injection ("TDI") 2.0 and 3.0 liter, light-duty diesel vehicles (the Subject Vehicles) throughout the U.S., including in Ohio.

41. The Subject Vehicles include the following makes and models sold or leased in the United States for the 2009 through 2016 model years:

2.0 Liter Diesel Models

Model Year (MY)	Generation (Gen)/Engine	Environmental Protection Agency ("EPA") Test Group	Vehicle Make and Model(s)
2009	Gen 1 /EA189	9VWXV02.035N 9VWXV02.0U5N	VW Jetta, VW Jetta Sportwagen
2010	Gen 1 /EA189	AVWXV02.0U5N	VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2011	Gen 1 /EA189	BVWXV02.0U5N	VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2012	Gen 1 /EA189	CVWXV02.0U5N	VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2013	Gen 1 /EA189	DVWXV02.0U5N	VW Beetle, VW Beetle Convertible, VW Golf, VW Jetta, VW Jetta Sportwagen, Audi A3
2014	Gen 1 /EA189	EVWXV02.0U5N	VW Beetle, VW Beetle Convertible, VW Golf, VW Jetta, VW Jetta Sportwagen
2012 2013 2014	Gen 2 /EA189	CVWXV02.0U4S DVWXV02.0U4S EVWXV02.0U4S	VW Passat
2015	Gen 3 /EA288	FVGAV02.0VAL	VW Beetle, VW Beetle Convertible, VW Golf, VW Golf Sportwagen, VW Jetta, VW Passat, Audi A3

3.0 Liter Diesel Models

Model Year (MY)	EPA Test Group(s)	Vehicle Make and Model(s)
2009	9ADXT03.03LD	VW Touareg, Audi Q7
2010	AADXT03.03LD	VW Touareg, Audi Q7
2011	BADXT03.02UG BADXT03.03UG	VW Touareg Audi Q7
2012	CADXT03.02UG CADXT03.03UG	VW Touareg Audi Q7
2013	DADXT03.02UG DADXT03.03UG DPRXT03.0CDD	VW Touareg Audi Q7 Porsche Cayenne Diesel
2014	EADXT03.02UG EADXT03.03UG EPRXT03.0CDD EADXJ03.04UG	VW Touareg Audi Q7 Porsche Cayenne Diesel Audi A6 Quattro, A7 Quattro, A8L, Q5
2015	FVGAT03.0NU2 FVGAT03.0NU3 FPRXT03.0CDD FVGAJ03.0NU4	VW Touareg Audi Q7 Porsche Cayenne Diesel Audi A6 Quattro, A7 Quattro, A8L, Q5
2016	GVGAT03.0NU2 GPRXT03.0CDD GVGAJ03.0NU4	VW Touareg Porsche Cayenne Diesel Audi A6 Quattro, A7 Quattro, A8L, Q5

For clarity, the State will refer to the Subject Vehicles throughout this Complaint as follows:

- the 2.0 liter Generation 1/EA-189s, the Generation 2/EA-189s, and Generation 3/EA-288s identified above will be referred to, respectively, as "Generation 1s," "Generation 2s," and "Generation 3s," and collectively as "2.0s";
- the 3.0 liter models will be referred to collectively as "3.0s"; and
- the 2.0s and 3.0s will be referred to collectively as "the Subject Vehicles."

42. Defendants sold, leased, and warranted roughly 475,000 2.0s and approximately 80,000 3.0s in the U.S.

43. Approximately 14,000 Subject Vehicles, including Generation 1s, Generation 2s, Generation 3s and the 3.0s, were sold or leased in Ohio.

44. As of October 1, 2015, more than 1,300 Subject Vehicles were registered in Franklin County, Ohio.

45. As described directly below, the diesel exhaust after-treatment technology Volkswagen designed and implemented in the Subject Vehicles changed over time and across engine generations, but certain key emissions control features remained constant: all the Subject Vehicles employed exhaust gas recirculation ("Exhaust Gas Recirculation" or "EGR") and were equipped with a diesel particulate filter ("Diesel Particulate Filter" or "DPF").

46. Exhaust Gas Recirculation is used primarily to reduce NO_x emissions by diverting exhaust gases to the intake system and mixing them with fresh air, thereby "thinning" the fresh air, lowering the combustion temperature and reducing the creation of NO_x.

47. The Diesel Particulate Filter removes particulate emissions or "soot" from the engine exhaust stream. It must be emptied (or "regenerated") at regular intervals in order for the DPF to control particulate emissions as intended.

48. While both technologies have emissions-related advantages (reducing NO_x emissions in the case of EGR and reducing soot emissions in the case of the DPF), they also have disadvantages. First, use of Exhaust Gas Recirculation increases particulate emissions (soot), and necessitates more frequent DPF regeneration to prevent clogging, thereby placing strain on the DPF and increasing the risk of premature DPF failures. Second, regeneration of the Diesel Particulate Filter increases NO_x emissions, increases fuel consumption, and places strain on the engine and the components of the emissions control system, including the DPF, due to the high temperatures needed for regeneration.

49. As the course of conduct described below demonstrates, Volkswagen installed the unlawful defeat devices on its vehicles to address these disadvantages.

C. Defendants install defeat devices on six lines of their vehicles over a decade.

i. The First Defeat Device: Audi's MY 2004-2008 V6 for the European Market

50. Audi encountered early emissions-related engineering challenges in 1999, as it embarked on the development of its large 3.0 liter V6 diesel luxury cars for the European market.

51. Engineers at Audi AG headquarters in Neckarsulm, Germany had developed a new technology for the engine called "Pilot Injection" that could eliminate the traditional clattering noise of diesel engines at start-up through the injection of additional fuel into the engine on ignition. However, activation of Pilot Injection upon ignition caused the engine to exceed European emissions standards during the laboratory test cycle on the rolling dynamometer (or "dyno") the European authorities used for emissions testing.

52. Audi solved this problem by implementing defeat-device, or "cycle-beater," software that allowed the engine to recognize the emissions-test cycle and deactivate Pilot Injection during dyno testing.

53. Audi developed and deployed this cycle-beating defeat device software on its European-market Audi 3.0-liter V6 diesels from 2004-2008. Because of its noise-reducing properties, Audi dubbed this defeat device the "Acoustic Function."

ii. The Second Defeat Device: Volkswagen's Generation 1s

54. As it was planning to launch its Generation 1 diesels in the U.S., Volkswagen explored equipping its Generation 1 engines with selective catalytic reduction ("Selective Catalytic Reduction" or "SCR") technology. SCR technology chemically reduces NO_x emissions by spraying liquid urea (sometimes called by its trade name "AdBlue") in the exhaust stream.

55. The SCR technology was licensed by Volkswagen's competitor, Mercedes-Benz, and the SCR system would have required outfitting the Generation 1s with one or more tanks capable of storing gallons of the urea-based emissions fluid.

56. The engineers and managers responsible for developing the Generation 1s' engine decided against using SCR technology in favor of a simpler, in-house emissions reduction system, known as a Lean-NO_x Trap ("Lean Trap"). The Lean Trap did not depend on SCR and therefore did not require urea tanks.

57. Rather, the Lean Trap operated by trapping the NO_x emissions in a catalytic converter and then periodically running the engine in a "fuel-rich," mode to "regenerate" the catalytic converter, thereby converting the NO_x it stored into nitrogen ("N₂").

58. Early in the development of the Lean Trap system, it became apparent to Volkswagen's engineers that regenerating the Lean Trap as frequently as necessary to bring NO_x emissions within legal limits produced excess soot. This additional soot would in turn clog and break the engine's DPF within just 50,000 miles of operation. The full useful life durability standard in the U.S., which Volkswagen was required to meet, was much greater—120,000 miles and even 150,000 miles at a later date.

59. Instead of resolving these challenges lawfully, Volkswagen's engineers in Wolfsburg adapted Audi's "Acoustic Function" defeat device in late 2006.

60. Like the Audi defeat device, the defeat device that Volkswagen implemented in the Generation 1s featured software that could detect when the vehicles were undergoing dyno testing. During dyno testing, the defeat device software substantially increased the frequency of Lean Trap regenerations and increased EGR to lower NO_x emissions to compliant levels. Then, during real driving conditions, the defeat device software substantially reduced the frequency of

Lean Trap regenerations and reduced EGR resulting in NO_x emissions in excess of 15 and 35 times the legal limit.

61. Volkswagen incorporated the Lean Trap regeneration and EGR defeat devices described above in the engine control units ("ECUs") of the 2009- 2014 Jetta, Golf, A3 and new Beetle diesel models, and sold more than 300,000 of these Generation 1 vehicles in the United States, including in Ohio.

iii. The Third Defeat Device: Audi's 3.0 SUVs

62. At the time Volkswagen engineers in Wolfsburg were developing the Generation 1 diesel engine, their colleagues at Audi's Neckarsulm headquarters were developing a 3.0 liter diesel engine for the anticipated release in 2009 of a new line of luxury diesel SUVs in the U.S. market: the SCR-equipped Audi Q7 and Volkswagen Touareg.

63. Adaptation of its European SCR technology for the U.S. market presented a challenge: to comply with federal NO_x limits and an EPA rule that tied urea tank refills to the manufacturer's service intervals, Audi's 3.0 liter vehicles in the United States would require larger urea tanks than their European counterparts.

64. Volkswagen and Audi management decided not to expend the time and money necessary to re-engineer the 3.0s to equip them with larger urea storage tanks, or shorten the length of the service interval set forth in their applications for certification. Instead, they chose to maintain a 10,000-mile service interval and decided once again to employ cycle-beating defeat device software.

65. Defendants featured the EGR defeat device implemented in the Generation 1s and a urea-dosing defeat device for the 3.0s. During dyno testing, the urea-dosing defeat device operated to increase urea dosing and EGR to attain compliant NO_x emissions. During normal

driving conditions, the defeat device reduced the urea dosing and EGR to an artificial limit to enable the too-small urea tanks to last for 10,000 miles between service intervals.

66. Audi approved and installed both the urea-dosing defeat device and the EGR defeat device for production into the 3.0s for sale in the U.S. market from 2009-2016.

iv. The Fourth Defeat Device: Volkswagen's Generation 2s

67. In 2009, Volkswagen turned its attention to the planned roll-out of the 2012 Generation 2 SCR-equipped Passat in the U.S., and faced the same quandary their Audi colleagues confronted—urea tanks that were insufficiently sized to meet the 10,000-mile refill interval to which they certified the Generation 2s.

68. Rather than resolve this engineering problem lawfully, Volkswagen again opted to implement defeat devices. Once the vehicle's computer recognized that it was undergoing dyno testing, the defeat devices increased EGR and urea dosing to bring the NO_x emissions within regulatory limits. Outside of test conditions, however, these cycle-beating, defeat devices reduced the urea dosing rate by half to conserve urea and reduce EGR.

69. With the approval of Volkswagen supervisory executives, company engineers went forward with the dosing and EGR-defeat devices, installing them in roughly 80,000 Volkswagen Passats in the U.S. market, including Ohio, spanning from model years 2012 to 2014.

v. The Fifth Defeat Device: The Porsche Cayenne

70. In 2010, Volkswagen AG acquired Porsche, and the founding family of Porsche became Volkswagen's leading shareholders. The following year, Porsche too decided it wanted to enter the U.S. diesel market with its new Cayenne SUV.

71. Porsche approached its sister company Audi about acquiring Audi's 3.0 liter V6 diesel engine for use in the Cayenne. Audi agreed to supply Porsche the engine, slightly re-tuned for Porsche. In supplying the engine, Audi personnel educated their counterparts at Porsche about the engine's primary features, including the urea dosing defeat device. Audi explained to Porsche personnel the 3.0s' urea tank-size limitation, the EPA requirement tying urea refills to service intervals, and the resulting urea-dosing strategy that Audi had devised and implemented.

72. Porsche's engineering department proceeded to source the Audi defeat-device equipped 3.0 liter engine for its entry into the U.S. diesel market with the 2013 Cayenne diesel SUV.

73. Approximately 14,000 of the defeat device-equipped Porsche vehicles were sold in the U.S., including more than 400 in Ohio.

vi. The Sixth Defeat Device: Volkswagen's Generation 3s

74. In or about 2013, Volkswagen discontinued the Lean Trap emissions system in favor of an SCR-based system for all of its model year 2015 2.0s (the Beetle, Golf, Jetta, Passat, and the Audi A3).

75. In doing so, Volkswagen again opted to implement EGR and urea-dosing defeat devices like those it implemented in the Generation 2s and the 3.0s.

76. Volkswagen sold nearly 100,000 model year 2015 Generation 3s in the U.S., including in Ohio. Many of the cars were sold even after Defendants became aware of independent real-world studies that made clear that the Subject Vehicles were emitting NO_x in real driving conditions far in excess of the legal limits. ¶

D. Defendants knew but concealed the defeat devices despite inquiry from government officials and independent researchers.

77. Defendants actively sought to conceal the defeat devices from regulators, researchers and the public. Among other things, they:

- a. directed the removal of references to the defeat device (or the "acoustic function" as it was called internally) from documentation;
- b. buried the results of 2012-2013 internal testing that reflected real world NO_x emissions that exceeded U.S. limits by many multiples;
- c. denied independent researchers access to data that would confirm NO_x discrepancies between testing and real driving conditions in Volkswagen's U.S. fleet; and
- d. failed to disclose the illegal, emissions-increasing defeat devices in their certifications to state and federal regulators which falsely represented full compliance with applicable emissions and durability standards.

78. Even so, researchers discovered the defeat devices. In March 2014, an Audi AG engineer alerted colleagues at Volkswagen AG and VWGOA EEO to the upcoming publication of a report by the West Virginia University's Center for Alternative Fuels, Engines & Emissions commissioned by the International Council on Clean Transportation (the "ICCT Report"). The ICCT Report found that real-world emissions from two of the three light-duty diesel vehicles it tested contained levels of NO_x between five and thirty-five times higher than the legal emissions limits. The ICCT researchers confirmed the findings and reported to VWGOA EEO that their vehicles failed the tests.

79. Documents and information provided as early as May 2014 by managing engineers to multiple senior management officials immediately after the ICCT study's release clearly demonstrate that Defendants knew that the excessive, real-world NO_x emissions could be

readily explained by the existence of the defeat devices described above, and Defendants would be subject to significant penalties if they admitted to regulators that the discrepancies were caused by defeat devices.

80. However, Defendants continued to conceal the existence of their illegal defeat devices until September 2015 when they finally admitted the existence of an illegal defeat device in the Generation 2s that allowed for two calibrations: one for real world driving (Calibration 1) and one for testing (Calibration 2). The pending government authorization to sell Generation 3s motivated Defendants to finally tell the truth about the illegal defeat devices.

81. In the face of regulatory action concerning the 2.0s and the intense public scrutiny they were facing, Defendants failed to acknowledge the existence of illegal defeat devices in the 3.0s.

82. After conducting CARB's testing, the agency issued a press release reporting that in a November 2015 meeting with EPA and CARB, "VW and AUDI told EPA and CARB that the issues raised in the In-Use Compliance letter extend to all 3.0 liter diesel engines from model years 2009 through 2016." Thereafter, in an In-Use Compliance Letter dated November 25, 2015, CARB confirmed its determination "that all 3.0 liter model years 2009-2016 test groups of the [Audi AG, Porsche AG, Porsche Cars North America, Volkswagen AG, and Volkswagen Group of America, Inc.] are in noncompliance with CARB standards[.]"

E. The German Defendants and VWGOA knew but concealed that the Subject Vehicles emitted dangerous and harmful NO_x emissions in amounts far higher than permitted under applicable emissions standards.

83. At all relevant times, the German Defendants – Volkswagen AG, Audi AG and Porsche – and Volkswagen's U.S. subsidiary, VWGOA, have known that the defeat devices installed in the 2.0 and 3.0s that they manufactured and sold in the United States, including in

Ohio, caused the Subject Vehicles to emit many times the allowed NO_x during normal operation in violation of laws and regulations promulgated to protect human health and the environment from mobile sources of air pollution.

84. The excess NO_x emitted by the Subject Vehicles combines in the atmosphere with volatile organic compounds ("VOCs") in a complicated reaction in the presence of heat and sunlight to form ozone, a major component of urban smog that harms the public health and damages the environment.

85. Ozone contributes to many human respiratory health problems, including chest pains, shortness of breath, coughing, nausea, throat irritation and increased susceptibility to respiratory infections, such as asthma, and disproportionately affects vulnerable members of society, particularly children and the elderly.

86. Emissions, in part from Volkswagen, contributed to Ohio's failure to meet the U.S. EPA National Ambient Air Quality Standards for ozone in the following counties: Ashtabula, Butler, Clermont, Clinton, Cuyahoga, Delaware, Fairfield, Franklin, Geauga, Hamilton, Knox, Lake, Licking, Lorain, Madison, Medina, Portage, Summit, and Warren. U.S. EPA adopts these standards to protect the public health, and Ohio seeks to meet these standards accordingly. In addition to the paramount concern for public health, the failure to meet these standards saddles Ohio EPA with a major regulatory burden to improve the air quality in these areas and seek attainment of these standards. Then, Ohio EPA must scientifically demonstrate the attainment to U.S. EPA through a formal redesignation process. Volkswagen should be held accountable not only for the public health risk associated with their emissions but also for the resources exhausted on ozone nonattainment.

87. NO_x emissions also cause eutrophication of and excess nutrient loading in coastal and other waters, reduce the diversity of fish and other life in these waters, and, along with sulfur dioxide found in the atmosphere from other sources, contribute to the creation of fine nitrate and sulfate particles. Like ozone, fine particulates affect Ohio's residents by causing human respiratory distress, cardiovascular disease, and even premature mortality. Fine nitrate and sulfate particles are also toxic to aquatic life and vegetation.

88. At all material times, Volkswagen was aware that its unlawful actions violated state environmental statutes and regulations more particularly described below in this Complaint.

F. Defendants admitted to installing the defeat devices as part of their settlement of the State's consumer protection and deceptive trade claims.

89. In June 2016, Defendants and a collection of states including Ohio entered into a Partial Settlement Agreement to resolve the states' claims under their respective consumer protection and deceptive trade practice laws and rules.

90. In the Partial Settlement Agreement, the states expressly reserved environmental claims (and those claims related to environmental claims), such as the claims provided in this Complaint.

91. As part of that agreement, Defendants made the following admissions regarding defeat devices:

Admissions. Volkswagen admits: (a) that software in the 2.0 Liter Subject Vehicles enables the vehicles' [engine control modules] ECMs to detect when the vehicles are being driven on the road, rather than undergoing Federal Test Procedures; (b) that this software renders certain emission control systems in the vehicles inoperative when the ECM detects the vehicles are not undergoing Federal Test Procedures, resulting in emissions that exceed EPA-compliant and CARB-compliant levels when the vehicles are driven on the road; and (c) that this software was not disclosed in the Certificate of Conformity and Executive Order applications for the 2.0 Liter Subject Vehicles, and, as a result, the design specifications of the 2.0 Liter Subject Vehicles, as manufactured, differ materially from the design specifications described in the Certificate of Conformity and Executive Order applications.

V. VIOLATIONS OF OHIO'S AIR POLLUTION CONTROL STATUTE AND RULES

92. Ohio's Air Pollution Control Statute (R.C. Chapter 3704), including the anti-tampering law (R.C. 3704.16) and the rules promulgated thereunder (including Ohio Adm.Code 3745-80-02), establish a comprehensive regulatory scheme designed to prevent pollution to the atmosphere by, among other things, controlling the amount of air contaminants, like NO_x, that are emitted from motor vehicles.

93. It is the purpose of all air pollution rules adopted under Chapter 3704 of the Revised Code to set forth such requirements as shall be necessary to secure and maintain those levels of air quality which are consistent with the protection of health and the prevention of injury to plant life, animal life, and property in the State of Ohio, and to provide for the comfortable enjoyment of the natural attractions of the State to the greatest extent practical. All rules of the Director shall be construed in such manner as to effectuate this purpose per Ohio Adm.Code 3745-15-02.

94. R.C. 3704.16(B)(1) states that "no person shall * * * [s]ell, offer for sale, possess for sale, advertise, manufacture, install, or use any part or component intended for use with or as part of any motor vehicle when the primary effect is to bypass, defeat, or render inoperative, in whole or part, the emission control system."

95. Ohio Adm.Code 3745-80-02(A) establishes the same prohibition set forth in R.C. 3704.16(B)(1).

96. R.C. 3704.16(B)(3) states that "no person shall * * * [t]amper with any emission control system installed on or in a motor vehicle prior to its sale and delivery to the ultimate purchaser."

97. Ohio Adm.Code 3745-80-02(C) establishes the same prohibition set forth in R.C.

3704.16(B)(3) except that it prohibits tampering prior to the sale and delivery to the ultimate purchaser or lessee.

98. Under R.C. 3704.16(A), “[t]amper with means to remove permanently, bypass, defeat, or render inoperative, in whole or part, any emission control system that is installed on or in a motor vehicle.”

99. R.C. 3704.16(C)(2) states that “no person shall knowingly * * * [s]ell, lease, rent, or offer to sell, lease, or rent, or transfer or offer to transfer title or a right to possession of a motor vehicle that has been tampered with.” Each “sale, lease, rental, and offer to sell, lease, or rent, and other transfer or offer to transfer of title or a right to possession of a motor vehicle * * *

” is a “separate offense.”

100. Ohio Adm.Code 3745-80-02(E) establishes the same prohibition set forth in R.C. 3704.16(C)(2).

101. R.C. 3704.16(C)(3) states that “no person shall knowingly * * * [t]amper with any emission control system installed on or in a motor vehicle after sale, lease, or rental and delivery of the vehicle to the ultimate purchaser, lessee, or renter.”

102. Ohio Adm.Code 3745-80-02(F) establishes the same prohibition set forth in R.C. 3704.16(C)(3).

103. R.C. 3704.05(G) states that “[n]o person shall violate any order, rule, or determination of the director issued, adopted, or made under this chapter.”

104. R.C. 3704.06(B) states that “[t]he attorney general, upon request of the director, shall bring an action for an injunction, a civil penalty, or any other appropriate proceedings in any court of competent jurisdiction against any person violating or threatening to violate section 3704.05 or 3704.16 of the Revised Code. The court shall have jurisdiction to grant prohibitory

and mandatory injunctive relief and to require payment of a civil penalty upon the showing that the person has violated this chapter or rules adopted thereunder.”

105. R.C. 3704.06(C) states that “[a] person who violates section 3704.05 or 3704.16 of the Revised Code shall pay a civil penalty of not more than twenty-five thousand dollars for each day of each violation.”

106. The Director, pursuant to his authority, adopted Ohio Adm.Code 3745-80-02 under R.C. Chapter 3704.

**COUNT ONE
SALE, ADVERTISE, MANUFACTURE, OR INSTALL A DEFEAT DEVICE**

107. Plaintiff incorporates by reference and re-alleges each allegation contained in Paragraphs 1-106.

108. From on or about 2006 through the present, Volkswagen sold, offered to sell, possessed for sale, advertised, manufactured, installed or used any part or component intended for use with a vehicle to bypass or defeat an emission control system on or in each of the Subject Vehicles.

109. The acts or omissions alleged in this Count constitute violations of R.C. 3704.16(B)(1), Ohio Adm.Code 3745-80-02(A), and R.C. 3704.05(G), for which each Defendant is jointly and severally liable, and is subject civil penalties of up to twenty-five thousand dollars (\$25,000.00) for each day of each violation, pursuant to R.C. 3704.06(C).

**COUNT TWO
TAMPER WITH EMISSIONS CONTROL SYSTEM**

110. Plaintiff incorporates by reference and re-alleges each allegation contained in Paragraphs 1-109.

111. From on or about 2006 through the present, Volkswagen tampered with the

emissions-control system installed on or in each Subject Vehicle before the sale and delivery to the ultimate purchaser or lessee of each Subject Vehicle and/or knowingly tampered with the emissions control system installed on or in each Subject Vehicle after the sale, lease, rental and delivery to the ultimate purchaser, lessee, or renter of each Subject Vehicle.

112. The acts or omissions alleged in this Count constitute violations of R.C. 3704.16(B)(3), Ohio Adm.Code 3745-80-02(C), and R.C. 3704.05(G), and/or 3704.16(C)(3), Ohio Adm.Code 3745-80-02(F), and R.C. 3704.05(G), for which each Defendant is jointly and severally liable, and is subject to civil penalties of up to twenty-five thousand dollars (\$25,000.00) for each day of each violation, pursuant to R.C. 3704.06(C).

COUNT THREE
KNOWINGLY SELL, LEASE, RENT, OR OFFER TO SELL MOTOR VEHICLES
THAT HAVE BEEN TAMPERED WITH

113. Plaintiff incorporates by reference and re-alleges each allegation contained in Paragraphs 1-112.

114. From or about 2006 through the present, Volkswagen knowingly sold, leased, rented, transferred or offered to transfer title or a right to possession of each Subject Vehicle after each Subject Vehicle had been tampered with.

115. The acts or omissions alleged in this Count constitute violations of R.C. 3704.16(C)(2), Ohio Adm.Code 3745-80-02(E), and R.C. 3704.05(G), for which each Defendant is jointly and severally liable, and is subject to civil penalties of up to twenty-five thousand dollars (\$25,000.00) for each day of each violation, pursuant to R.C. 3704.06(C). Each "sale, lease, rental, and offer to sell, lease, or rent, and other transfer or offer to transfer of title or right to possession of a motor vehicle * * *" is a "separate offense" pursuant to R.C. 3704.016(C)(2).

COUNT FOUR
ENGAGE IN A CIVIL CONSPIRACY AGAINST THE COMMON LAW TO
VIOLATE STATE LAWS

116. Plaintiff incorporates by reference and re-alleges each allegation contained in Paragraphs 1-115.

117. As described above in this Complaint, from on or about 2006 through the present, Defendants purposefully acted in concert or participation with one another to violate, cause, or allow violations of R.C. Chapter 3704 and Ohio Adm.Code 3745-80-02.

118. As described above in this Complaint, at a minimum, the Defendants purposefully provided substantial assistance to one another or purposefully aided and abetted one another through common, mutual understanding or design, to violate, cause, or allow violations of R.C. Chapter 3704 and Ohio Adm.Code 3745-80-02, from 2009 through the present.

119. Defendants caused the State injury or harm by committing the acts or omissions provided in this Complaint in a manner or to a degree that could not have been caused by one lone Defendant.

120. By the actions or omissions described above in this Complaint, the Defendants engaged in a civil conspiracy to violate the duties or requirements imposed upon them by R.C. Chapter 3704 and Ohio Adm.Code 3745-80-02, and as such all are jointly and severally liable for all violations of those legal authorities. The State is entitled to damages including the costs of personnel time for investigating and bringing this action including reasonable attorney fees.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that this Court:

- A. ORDER Defendants, jointly and severally, pursuant to R.C. 3704.06 to pay a civil penalty for violations of R.C. Chapter 3704 and Ohio Adm.Code 3745-80-02 as described in the Complaint in the amount of up to and including Twenty-Five Thousand Dollars (\$25,000.00) for each day of each violation, including each day of violation subsequent to the filing of this Complaint.
- B. ORDER Defendants, jointly and severally, to pay compensatory damages, including but not limited to, the costs of personnel time for investigating, inspecting, and bringing this action, including reasonable attorney fees.
- C. ORDER Defendants to pay all court costs associated with this action.
- D. RETAIN jurisdiction of this suit for the purpose of making any order or decree which it may deem necessary at any time to carry out its judgment.
- E. GRANT such other relief as the Court deems appropriate, just, and equitable.

Respectfully submitted,

MICHAEL DEWINE
OHIO ATTORNEY GENERAL

/s/ Aaron S. Farmer

AARON S. FARMER (0080251)
ELIZABETH R. EWING (0089810)
Assistant Attorneys General
Environmental Enforcement Section
30 East Broad Street, 25th Floor
Columbus, Ohio 43215
(614) 466-2766 (phone); (614) 644-1926 (facsimile)
aaron.farmer@ohioattorneygeneral.gov
elizabeth.ewing@ohioattorneygeneral.gov

Counsel for Plaintiff, State of Ohio